

## REMARKS

### REVIEW

The current application, as previously amended, sets forth claims 1-44. Claims 16-35 have been withdrawn as a result of a restriction requirement. Of the remaining claims, Claims 1 and 41 are independent claims. Claims 6, 7, and 9 have been cancelled.

Claims 15, and 42-43 are objected to. Presently, no claims have been indicated as allowed in view of the prior art. Claims 1 - 5, 36-39 and 41-43 (sic) 1 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Wrzel, et al* (U.S. Patent No. 5,128,162) in view of *Ergin, et al* (U.S. Pat. No. 6,440,057). Claims 8-15 and 40 stand rejected in light of *Wrzel et al*, in view of *Ergin, et al*, and in further view of *Vanderspurt et al* (U.S. Patent No. 4,256,675).

### CLAIM OBJECTIONS

Claim 15. Review of Applicant's record indicates that Claim 15 was cancelled by amendment in Election dated October 28, 2005. The amendments above have been revised to reflect the correct status of Claim 15.

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<sup>1</sup> The Detailed Action in paragraph 4, initially indicates claims "41 -43;" however, on page 4, the last claim 44 is included. Applicant therefore will assume that claim 44 is intended to be rejected upon the same ground of rejection as Claims 41 - 43.

Claims 42-43. Claims 42-43 are objected to as improperly claiming dependence. The above amendment provides the correct dependent relationship.

### 35 U.S.C. § 103(a) REJECTIONS

The burden is on the Patent Office to establish a *prima facie* case of obviousness. See MPEP § 2142. To do so, the examiner must show, with factual evidence:

- (1) some suggestion or motivation to combine the reference teachings;
- (2) that there is a reasonable expectation of success; and
- (3) the combination must teach or suggest all the claim limitations of the invention as a whole. See *id.*, (citing *In re Vraek*, 947 F.2d 488 20 USPQ2d 1438 (Fed. Cir. 1991)).

Under the first criteria, the suggestion, teaching or motivation to combine prior art references may flow, *inter alia*, from the references themselves, and the knowledge of one ordinary skill in the art or the nature of the problem to be solved. See *Winner International Royal Corp. v Wang*, 202 F.3d 1340, 53 U.S.P.Q. 2d 1580 (Fed. Cir. 2000); *In re Fine*, 837 F. 2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 U.S.P.Q. 2d 1941 (Fed. Cir. 1992). Although a reference

need not expressly teach that the disclosure contained therein should be combined with another, showing of combinability, in whatever form must nevertheless be “clear and particular.” *Winner International Royal Corp.*, 202 F. 3d at 1586.

The second criteria in order to establish a *prima facie* case of obviousness, is that there must be a reasonable expectation of success. *In re Merck & Co, Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Obviousness does not require absolute predictability, however, at least some degree of predictability is required. Evidence showing there is no reasonable expectation of success may support a conclusion of non-obviousness. *In re Rinehart*, 531 F.2d 1048, 189 U.S.P.Q. 143 (CCPA 1976).

The last criteria to establish a *prima facie* case of obviousness of a claimed invention is that all the claimed limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). If an independent claim is not obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *In re Fine, supra*.

There can be no legally cognizable suggestion or motivation to combine or modify the references as the examiner proposes in light of the above amendments. Consequently, the Office cannot carry its burden of establishing a prima facie case of obviousness.

Claims 1 and 41. The Office rejected independent Claims 1 and 41 as being allegedly obvious over *Wrzel et al* in view of *Ergün, et al.* This combination is legally improper as there is no recognizable motivation or suggestion to combine these two references. Specifically, the combination does not teach all of the limitations of amended Claims 1 and 41.

*Wrzel, et al* is directed to a method for removing cholesterol from edible oils and discloses a process whereby butterfat (Fig. 1, an image of which is shown below, at 102) and succinic anhydride (Fig. 1 at 106) are supplied to reaction chamber (104) with two, valve-controlled inlets within which these two constituents are stirred at 170C for 1 hour (Fig. 1; Col. 6, ll. 8-26). The resultant emulsion is then supplied to a centrifuge (Fig. 1 at 110; Col. 8, ll. 31-36) which is maintained at 120C and which separates butterfat and cholesterol hemisuccinate. The butterfat mixture is received by another centrifugal extractor system (Col. 8, ll. 40-48). At this point, the process

adds a sodium carbonate solution (Fig. 1, at 112; Col. 6, ll. 40-50). The purpose of the sodium carbonate solution is to facilitate the extraction of cholesterol hemisuccinate from the butterfat. *Id. Wrezel et al* is not directed to, nor does its process result in transesterification of the fatty materials.

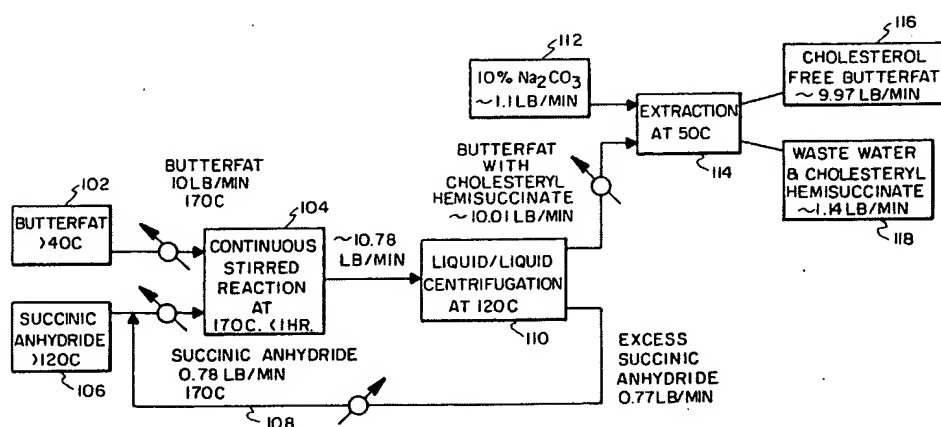


FIG. 1

U.S. Patent

July 7, 1992

Sheet 1 of 2

5,128,162

*Ergün, et al* teaches a system for producing fatty acid methyl ester through transesterification of animal or vegetable fats by combining an alcohol and an alkaline solution in a mixing vessel, and then supplying the resulting mixture to a reaction chamber simultaneously with a fat. Fig. 1; Col. 7, ll. 25-40 The reaction

chamber, which is maintained at high pressure, is disclosed simply to have a dynamic emulsifier, a crack emulsifier, or a turbulator (Col. 8, ll. 51-55). This mixture is then distilled. *Ergin, et al* suggests advantages to using an ultrasound device (Col. 8, ll. 55-58), but fails to disclose description of a structure that teaches where and how such an ultrasound device may be mounted to a reaction chamber.

Neither reference discloses or suggests conducting all three reactant materials (fats, alkaline solution and alcohol) to the reaction chamber as an emulsion via a common inlet structure or pipe. Both references require two inlets to the reaction chamber. In *Ergin, et al*, for example, the reaction chamber includes two inlets, one for the fats, and the other for a mixture of the alkaline solution and alcohol. In fact, to arrive at the present invention, the combination proposed by the Examiner would require a substantial redesign.

The following is quoted from the MPEP §2143.01.

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring

fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

MPEP §2143.01, VI. "The Proposed Modification Cannot Change The Principle Of Operation Of A Reference." Here, to achieve the structure and purpose of the invention set forth in the amended claims, the tank in *Wrezel et al* that is designated to supply sodium carbonate (shown at 112) has to be removed from its position disclosed in *Wrezel et al* after the reaction chamber, and configured so that it is before the reaction chamber so that the sodium carbonate is reacted with the fats and the succinic anhydride simultaneously. This results in a "substantial reconstruction and redesign" of *Wrezel et al*, and destroys the intended purpose of the apparatus disclosed in that reference. Accordingly, the combination of *Wrezel et al* is not suggested or motivated by the prior art, and there is no prima facie case of obviousness. *See id*

Furthermore, neither reference discloses or suggests that the inlet to the reaction chamber is located in the bottom portion of the reaction chamber. Indeed, *Wrzel, et al*, is silent on where inlets for the fats and succinic anhydride may be located, and the two inlets of *Ergün, et al*, are shown to be at the top of the reaction chamber.

Amended Claims 1 and 41 require a single inlet pipe for all three constituent components of the transesterification process that is coupled to the reaction chamber in the bottom portion thereof. This structural element and limitation are not present or suggested in either reference. To establish a *prima facie* case of obviousness, the Office must show, clearly and particularly, that the combination teaches all of the limitations required by the claims. *See* MPEP §§ 2142, 2143, 2143.03. Since these elements are not taught by either reference, there can be no *prima facie* case of obviousness. Applicant therefore, respectfully urges the withdrawal of the rejection under 103(a) as to Claims 1 and 41.

Claims 2-5, 37-39 and 42-44. Claims 2-5, and 37-39 depend from Claim 1. Claims 42-44 depend from Claim 41. Applicant submits that in light of the above amendments as discussed above, Claims 1 and 41 are now non-obvious under 35



U.S.C. § 103(a). Any claim depending from Claims 1 and 41 are now non-obvious as well. *See* MPEP § 2143.03. Accordingly, Claims 2-5, 37-39 and 42-44 are nonobvious and Applicant requests withdrawal of the rejection as to these claims.

Claims 8-15 and 40. Claims 8-15 and 40 depend from Claim 1. Applicant submits that in light of the above amendments as discussed above, Claim 1 is now nonobvious under 35 U.S.C. § 103(a). Any claim depending from Claim 1 is now nonobvious as well. *See* MPEP § 2143.03. Accordingly, Claims 8-15, and 40 are nonobvious and Applicant requests withdrawal of the rejection as to these claims.

#### CITED RELEVANT PRIOR ART

It is not believed that any of the prior art cited but not relied upon, alone or in combination either with each other or other cited prior art, teaches, discloses, suggests, or makes obvious the claimed features of the present invention.

#### CONCLUSION

In view of the foregoing amendments and comments, Applicant respectfully requests withdrawal of the current grounds of rejection and the issuance

of a formal Notice of Allowance. The Examiner is invited to telephone the undersigned at his convenience if there are any questions arising from consideration of this amendment in order to permit early resolution of the same.

NOVEMBER 9, 2006

Respectfully submitted,

LANIER FORD SHAVER & PAYNE  
P.C.

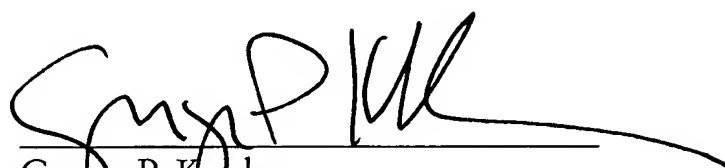
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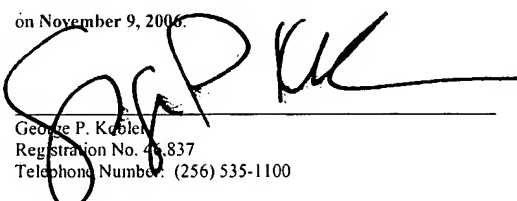
P.O. Box 2087

Huntsville, Alabama 35804-2087

Phone: (256) 535-1100

Fax: (256) 533-9322

  
George P. Kobler  
Reg. No. 46,837

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